The number, size, and placement of text annotations were chosen to

1:10,000,000-scale map. Features are labeled with names approved by

the International Astronomical Union (for a complete list of lunar

L 10M ±90/0 RTK: Abbreviation for Moon; 1:10,000,000 series; cen-

ter of maps: 90° north latitude and 0° longitude

for north hemisphere, and 90° south latitude and

0° longitude for south hemisphere; shaded relief

(R) with topographic data and nomenclature (T)

nomenclature, see http://planetarynames.wr.usgs.gov).

provide a general orientation of conspicuous features on a

points being collected in the north pole region and 1,724,872 points

being collected in the south pole region. On average, over the area that

data were collected (79° S. and 81° N.), the Clementine laser altimeter

ric data collected an elevation value for every 1.3 km² in the north pole

and vertically transformed to align with the Clementine laser altimeter

Merging the topographic data required an iterative process to reduce

data to form the final digital terrain model (Rosiek and others, 2001).

and 1.2 km² in the south pole. The photogrammetric data were merged

from 57° N. to 90° N., approximately 1900 points were picked. Within

the south polar region, an area from 57° S. to 90° S., approximately

1100 points were picked. These points were used to warp the shaded

relief map to match the Clementine mosaic. The Clementine mosaic has

Vertical control is based on measurements from the Clementine laser

altimeter that collected data between 79° S. and 81° N. The along-track

spacing of these measurements varied: over some smooth mare surfaces

an along-track spacing of 20 km was achieved; where the instrument

a positional accuracy of 500 m (1/60°) (Eliason and others, 1999).

9500 10000

Maximum

Standard Deviation 2078

Mean

8193 –266

ELEVATION, IN METERS

Histogram of elevation values for north hemisphere

global topographic gridded digital terrain model for the lunar surface.

tent over the poles in this digital terrain model, only data between 75°

polar regions, topographic data were collected photogrammetrically

For the photogrammetric analysis, horizontal control was established

by selecting some of the match points that were used in building the

Clementine global mosaic. These points provided estimates for latitude

lost lock over rough highland terrain, the spacing degraded to 100 km. and longitude values, but no estimate for elevation values. Vertical conthe error between the photogrammetric data and the topographic data

from Clementine 750 nm oblique and nadir images.

Because the altimeter points were sparser near the poles and non-exis-

S. and 75° N. were used in the final digital terrain model. To fill in the collected an elevation value for every 514 km²; and the photogrammet-

stereoimages: Journal of Geophysical Research, v. 105, no. E5, p.

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ELEVATION, IN METERS

Histogram of elevation values for south hemisphere

10000

Maximum

Standard Deviation 2306

Printed on recycled paper

Mean

9500